Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A system for permitting orderly shutdown of electronic components, the system comprising:

an enclosure having an interior surface;

one or more electronic components positioned within the enclosure;

at least one fan positioned within the enclosure for generating an airflow across the one or more electronic components;

a heat exchanger for cooling the airflow; and

a plurality of phase change material layers disposed upon the interior surface, at least one of the layers exposed to the airflow within the enclosure generated by the fan for absorbing heat from the airflow upon a failure associated with the heat exchanger, a first of the phase change material layers having a phase change temperature different from a second of the phase change material layers.

2. (Currently amended) The system according to claim 1, wherein at least one of the layers of the phase change material has a phase change temperature that is above a temperature of the airflow when there is no failure associated with the heat exchanger, and below a maximum operating temperature of the one or more electronic components.

3. (Original) The system according to claim 1, wherein the heat exchanger is a fluid to air heat exchanger.

4. (Original) The system according to claim 3, wherein the fluid to air heat exchanger is coupled to a fluidic circuit.

5. (Original) The system according to claim 4, wherein the fluidic circuit circulates one of a refrigerant and water.

6. (Original) The system according to claim 1, wherein the heat exchanger is a thermoelectric device.

7. (Original) The system according to claim 1, wherein the phase change material is enclosed in a heat conductive container.

8. (Original) The system according to claim 7, wherein the container includes fins.

9. (Previously presented) The system according to claim 1, wherein the phase change material is in micro-encapsulated form that is embedded in a coating applied to one or more interior surfaces of the enclosure.

10. (Previously presented) The system according to claim 1, wherein one or more interior surfaces of the enclosure is coated with the phase change material, the phase change material encapsulated by a sealing coat.

11. (Original) The system according to claim 1, further comprising:

a temperature sensor for sensing temperature within the enclosure; and

a high-temperature indication indicative of a high temperature within the enclosure, the high temperature being lower than a phase change temperature of the phase change material.

12. (Original) The system according to claim 1, wherein the phase change material is a material chosen from the group of materials consisting of a paraffiin, a hydrated salt, a metal, an alloy and an organic acid.

13. (Original) The system according to claim 1, wherein the at least one fan substantially recirculates air within the enclosure.

14. (Original) The system according to claim 1, wherein the one or more electronic components includes at least one blade server.

15. (Currently amended) A method for cooling one or more electronic components positioned in an enclosure, the method comprising:

providing an air cooling element within the enclosure;

generating an airflow across the cooling element and one or more electronic components positioned within the enclosure; and

cooling the airflow using a plurality of layers of phase change material upon a failure in the cooling element, the phase change material positioned ~~within~~ on an interior surface of the enclosure and exposed to the airflow within the enclosure generated by the fan.

16. (Original) The method according to claim 15, wherein providing the air cooling element includes:

moving fluid through a fluidic circuit, the fluidic circuit including a fluid to air heat exchanger.

17. (Original) The method according to claim 16, further comprising pumping one of a water and a refrigerant through the fluidic circuit.

18. (Original) The method according to claim 15, wherein the air cooling element is a thermoelectric device.

19. (Original) The method according to claim 15, further comprising providing an indication indicative of a high temperature condition within the enclosure.

20. (Original) The method according to claim 15, further including shutting down the one or more electronic components upon a failure in the fluidic circuit.

21. (Original) The method according to claim 15, wherein the phase change material has a melting point that is above a temperature of the airflow when there is no failure in the air cooling element, and below a maximum operating temperature of the one or more components.

22. (Original) The method according to claim 15, further comprising enclosing the phase change material in a container.

23. (Original) The method according to claim 15, further comprising encapsulating the phase change material in a surface positioned within the airflow.

24. (Original) The method according to claim 15, further comprising:

applying the phase change material to a surface positioned within the airflow; and

applying a sealing coat on top of the phase change material.

25. (Original) The method according to claim 15, wherein the one or more electronic components includes at least one blade server.

26. (Currently amended) A cooling system comprising:

an enclosure;

one or more electronic components positioned within the enclosure;

means for generating an airflow across the one or more electronic components;

cooling means for cooling the airflow; and

a phase change material <u>at least partially comprising a hydrated salt and</u> positioned within the enclosure in the airflow generated by the fan, the phase change material for absorbing heat from the airflow upon a failure in the cooling means.

27. (Original) The cooling system according to claim 26, wherein the means for generating the airflow includes a fan.

28. (Original) The cooling system according to claim 26, wherein the cooling means includes a fluid to air heat exchanger.

29. (Original) The cooling system according to claim 28, wherein the fluid to air heat exchanger is coupled to a fluidic circuit that circulates one of a refrigerant and water.

30. (Original) The cooling system according to claim 26, wherein the cooling means includes a thermoelectric device.

31. (Original) The cooling system according to claim 26, wherein the phase change material is enclosed in a container.

32. (Original) The cooling system according to claim 31, wherein the container includes fins for dissipating heat.

33. (Original) The cooling system according to claim 26, wherein the phase change material is encapsulated in a surface positioned within the airflow.

34. (Previously presented) The cooling system according to claim 26, wherein one or more interior surfaces of the enclosure is coated with the phase change material, the phase change material encapsulated by a sealing coat.

35. (Original) The cooling system according to claim 26, wherein the phase change material is a material chosen from the group of materials consisting of a paraffiin, a hydrated salt, a metal, an alloy and an organic acid.

36. (Original) The method according to claim 26, wherein the one or more electronic components includes at least one blade server.